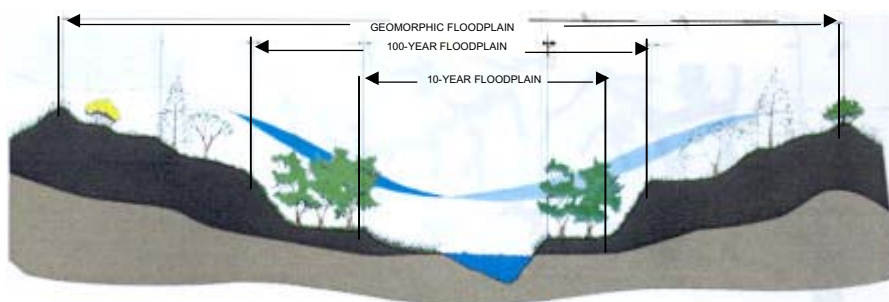


## Floodplain Management: No-Net Rise and Compensatory Storage



### Description

No-net rise floodplain management strategy requires developers to show that proposed improvements do not increase flood elevations at the site and/or downstream. Developments within the floodplain that increases the regulatory floodplain water surface elevations are prohibited. No-Net Rise is often combined with compensatory storage to provide some flexibility for the developer. Compensatory storage requires the developer to provide hydraulically equivalent storage volume at a ratio of 1 to 1 or greater for the fill volume proposed within the floodplain. A No-Net Rise/Compensatory storage policy would allow the developer to fill in the floodplain if it can be demonstrated that the fill will not increase the floodplain water surface elevations.

A no-net rise/compensatory storage floodplain management alternative should not be confused with “no net loss”. Often, a “no net loss” approach simply requires equal amount of fill and excavated volume, and does not require hydraulic simulations to verify a no-net rise in the floodwater elevations.

### Advantages

- ★ Maintains floodplain storage volume.
- ★ Prevents downstream increase in peak flow rates by maintaining the floodplain storage.
- ★ Maintains existing flood elevations.
- ★ Reduces impact to riparian corridor.
- ★ Allows for development to occur within the floodplain as long as conditions are met.
- ★ Provides some water quality benefits by preserving floodplain storage.

### Disadvantages

- ☹ May increase bridge design and construction costs for which backwater is a constraint.
- ☹ Requires more in depth technical review.
- ☹ Increases development costs.
- ☹ A Compensatory Storage (“no net loss) approach without requiring flood modeling would not be effective and could actually increase floodplain water surface elevations.

## **Floodplain Management:** No-Net Rise and Compensatory Storage

☹ Requires identification and acquisition of compensatory storage areas.

☹ Requires developer to perform floodplain modeling.

### **Implementation Considerations**

- Resources available for site plan review and enforcement
- Floodplain modeling methods are required to achieve greatest success
- Compensatory storage requirement for upstream storage areas such as wetlands
- Public outreach program
- Level of regulation

### **Example Communities**

- Lake County, Illinois
- Fort Worth, Texas
- McHenry County, Illinois
- Milwaukee, Wisconsin
- King County, Washington

### **References**

Comparison and Assessment of Zero-Rise Floodplain Ordinances, Wood, Andrew, et. al., Journal of Water Resources Planning and Management, July/August 1997.

No Adverse Impact Status Report: Helping Communities Implement NAI, June 2002, Association of State Flood Plain Managers